

WILDLIFE MANAGEMENT UNIT 23 - MONROE

Boundary Description

Piute and Sevier counties - The boundary begins at Interstate 70 and highway U.S. 89 at Sevier; then south on US-89 to highway SR-62; then east and north on SR-62 to highway SR-24; then on SR-24 to I-70; south on I-70 to US-89 and beginning point.

Management Unit Description

Unit 23, located in central Utah, completely encompasses Monroe Mountain for which it is named. This mountain is oriented north and south with drainages to the east, south and west. All of the water from the mountain eventually enters the Sevier River, either directly from the west side of the mountain or via tributaries (Otter Creek and the east fork of the Sevier River) on the east and south sides. The top of the mountain is relatively flat and has a good mixture of spruce-fir forests, aspen stands, sagebrush flats, and meadows. Numerous springs, small lakes, and reservoirs provide reliable water sources for both livestock and wildlife. Signal Peak at 11,223 feet and Monroe Peak at 11,227 feet are the elevational high points. The municipalities located within the unit boundaries are Richfield, Sigurd, Elsinore, Joseph, Sevier, Marysvale, Junction, Kingston, Angle, Greenwich, and Koosharem.

Winter range is still considered the limiting factor for the unit's elk and deer herds. The upper limits of the normal range extend to 8,000 feet on the southern end of the mountain and 7,800 feet on the northern end. During severe winters the upper limit drops to about 7,800 feet on the southern end and 6,800 feet on the northern end. Deer wintering on the north end are particularly susceptible to winter loss during harsh winters when the winter range is severely restricted by deep snows. Winter concentration areas for deer are between Glenwood and Poverty Flat on the west side and between Burrville and Greenwich on the east side. The unit's elk herd splits each winter with one part wintering near Greenwich and the other part wintering near Marysvale. Crop depredation problems occur each year in the fields near Greenwich and Monroe. Revegetation of adjacent pinyon-juniper areas is an ongoing task to provide an alternate forage source for these problem animals. In addition, a 2 mile stretch of experimental high-tension electric fence was built across the top of a field south of Monroe. This fence has helped eliminate depredation problems on that particular field when it is maintained properly.

Huff and Blotter (1964) did the initial winter range survey. They reported acreages and percent cover of preferred deer browse for four general winter range vegetative types. Pinyon-juniper made up 62% of the winter range with 13% of this made up of browse preferred by deer. The sagebrush, mixed, and mountain brush types cover 27%, 7%, and 4% of the winter range respectively. With regard to these last three vegetative types, percent preferred browse made up 14%, 18%, and 39% of these vegetative types respectively. The pinyon-juniper type, which provides good protective thermal cover, but is a less productive source of preferred browse, appears to be slowly encroaching into other vegetative types. Estimate of total acreage for normal winter range is 146,000 acres. Mann (1985) determined how much additional acreage would be needed. It was estimated to be approximately 2,026 acres that needed to be acquired from private landowners to help maintain the herd at its present numbers.

The summer range is in fairly good condition despite a history of overgrazing by livestock. More restrictive grazing plans have resulted in an upward trend in vegetative composition and vigor in recent years. The gentle topography, abundance of water with an interspersed forage and cover provide quality fawning, calving, and summering areas for both deer and elk. Fawn production and survival is normally good. The ratio of fawns per 100 does was 82 between 1975-84 (Jense et al. 1985). It had fallen to 76 fawns/100 does with the prolonged drought from 1986 to 1990 (Jense et al. 1991). The ratio declined further in 1997-98 to

only 58 fawns per 100 does but rebounded some by 1998-99 to 67. The summer range has an extensive network of roads with new roads having been proposed for timber sales. These roads and the associated activities can cause stress on the wildlife and affect their land use patterns. Some road closures would be beneficial to the units big game populations in the future. Many summer homes have been built and more will likely be built in the future on the parcels of private land scattered throughout the summer range. The mountain is used for camping and fishing during the summer, and hunting in the fall.

Big Game Harvest History and Management Objectives

The Monroe Mountain unit has been a productive deer unit providing excellent hunting opportunities in the past. Between 1951 and 1971, an average of 1,456 bucks were taken for a yearly hunter success rate averaging over 75% (Jense et al. 1985). A combination of over harvesting does during the either sex hunts of 1971 and 1972, a drought during 1974-75 and the devastating winters of 1972-73 and 1978-79, resulted in low populations in the late 1970's and early 1980's, but the herd rebounded somewhat since. The lower deer numbers reduced pressure on the browse, and combined with good water years from 1982 through 1985, resulted in improved range conditions. Because of the great variations in deer harvest through time, a regression of deer harvest from 1950 to 1990 gives a more realistic indication of overall trend through the last forty years. The regression of the harvest trend actually shows a 5% decline. The current (1998) unit management goals are to maintain a target population of 7,500 wintering deer with a post season herd composition of 15 bucks to 100 does with 30% of the bucks being 3 point or better (DeBloois 2001).

The Monroe Mountain elk herd unit boundaries are the same as the deer herd unit boundaries. The first elk hunt was held in 1982. Ten bull permits have been issued each year since, with 21 mature bulls and 3 spikes harvested during the 1982, 1983 and 1984 hunts (Jense et al. 1985). Since 1985, the number of bull permits have remained about the same until 1990 with a more than 30% increase in permits and over 50 antlerless permits. Total permits dropped to 11 limited entry bull permits in 1997 and 21 in 1998 (Hodson 2000). The current management goals are to achieve a target modeled population of 1,800 elk with a minimum post season bull to cow ratio of 20:100 with at least 10 of these bulls being 2½ years of age or older. The bull harvest objective is to manage for an average age of harvested bull from 7 to 9 years old (DeBloois 2001).

Trend Study Site Description

Bear Ridge, Saul Meadow, Thompson Basin, Poverty Flat, Smith Canyon and Koosharem Canyon were chosen as study sites by an interagency committee of Forest Service, BLM, and DWR personnel. These permanent range trend transects were established and read in 1985, and reread in 1991, 1998 and 2003. In addition, 2 new studies were established near Greenwich in 1997 to monitor a sagebrush disking treatment and 2 studies were established in 1999 to monitor a sagebrush harrow treatment near Koosharem Reservoir. These 4 studies were reread in 2003.

SUMMARY

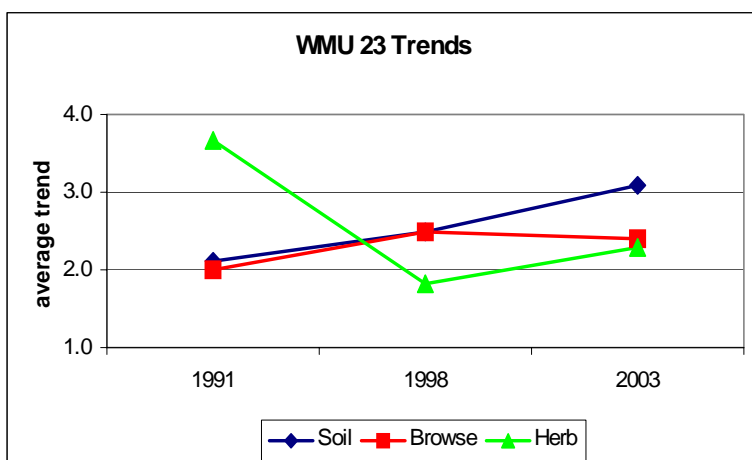
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Six trend studies were established on the Monroe unit in 1985. All of these studies sample big game winter ranges. These studies were reread in 1991, 1998, and 2003. Two additional paired trend studies (treatment & control) were established; one in 1997 near Greenwich sampling a sagebrush disking treatment, and the other north of Koosharem Reservoir which samples a harrow treatment. Average soil trends on unit 23 are stable at 3.1. Saul Meadow (23-2) and Bear Ridge (23-3) had slightly downward soil trends while Greenwich disking had a downward soil trend. All other sites soil trends were stable or improving. Browse trends averaged slightly down unit wide at 2.4. Slightly downward browse trends were found at Bear Ridge (23-1) and Thompson Basin (23-3). Both sites have significant pinyon and juniper cover averaging 32% at Bear Ridge and 34% at Thompson basin. The increased competition combined with drought caused increased decadence in the key browse species. Downward trends were found at Smith Canyon (23-5) and at the paired trend study, Greenwich disking (23R-1) and Greenwich native (23R-2). Smith Canyon's key browse species, mountain big sagebrush declined slightly in density, increased in decadence, and had a decline in young recruitment. All surviving shrubs on the Greenwich disking treatment found in 1998 were not found in 2003. On the Greenwich native site, Wyoming big sagebrush remained stable in density but the number of decadent plants increased from 17% to 82%, and half of the decadent shrubs were classified as dying. Herbaceous trends averaged slightly down unit wide at 2.3. Downward trends were found at Smith Canyon, Greenwich disking, and Greenwich native sites. Slightly downward trends were encountered at Poverty Flat (23-4) and Koosharem Canyon (23-6). Of the 10 trend studies sampled in 2003, eight studies displayed a decline in the sum of nested frequency of perennial grasses while 6 of the 10 showed a decline in the sum of nested frequency of perennial forbs. The average number of forb species sampled declined by half between 1998 and 2003.

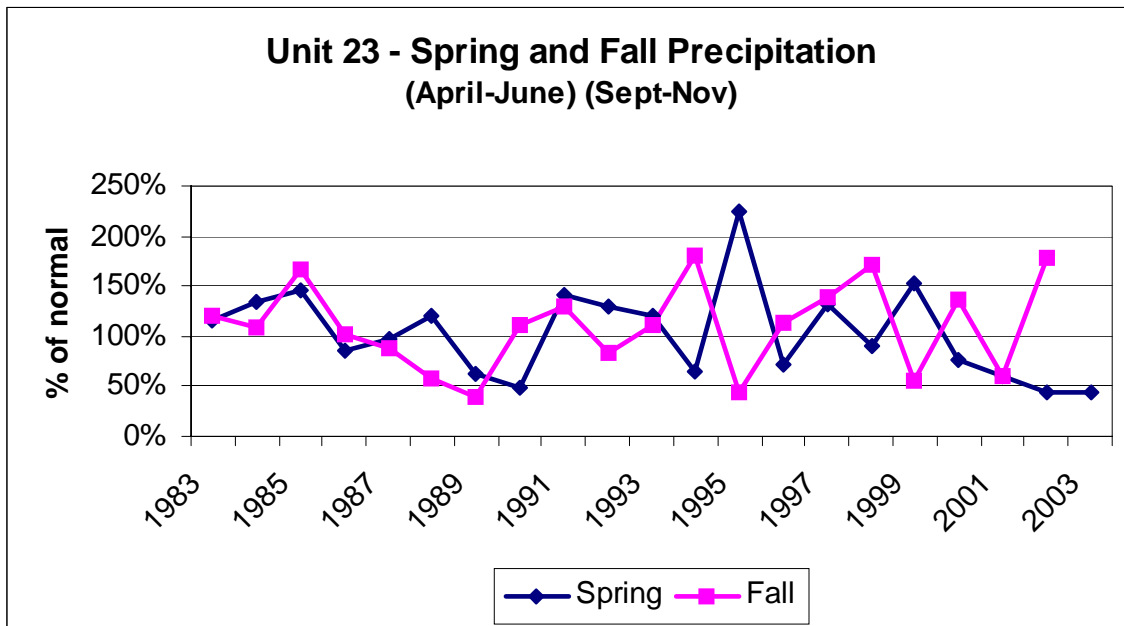
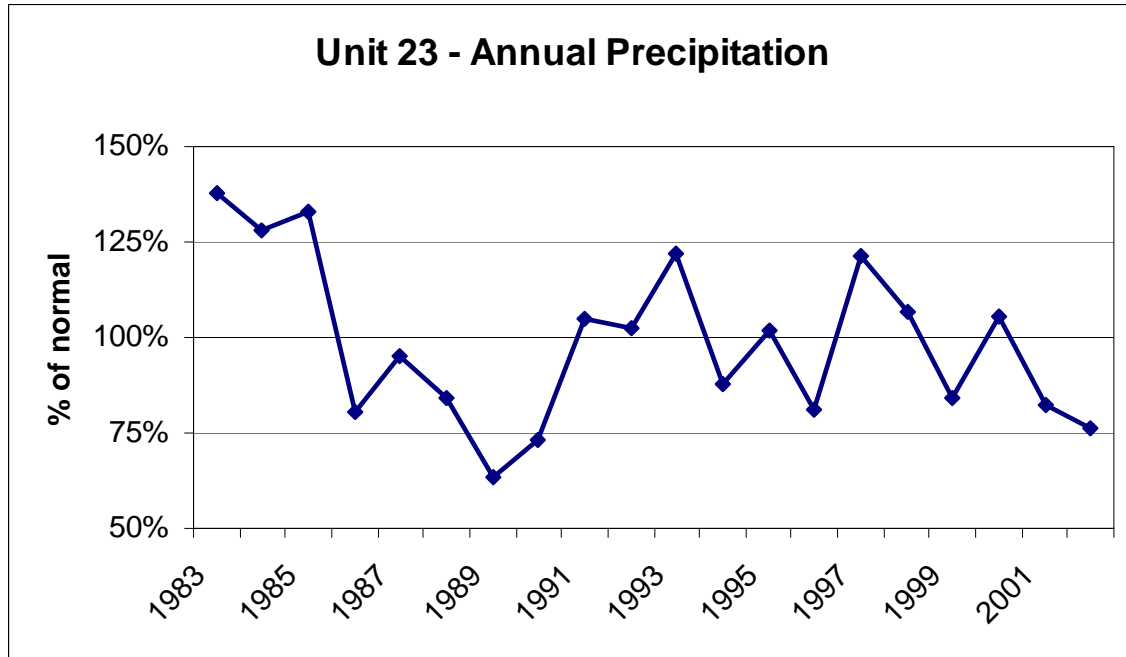
These trends have been driven primarily by weather patterns. Precipitation data from weather stations surrounding the unit (Richfield, Marysvale, and Koosharem) show a dry period prior to the 2003 reading. Annual precipitation was below normal in 2001 and 2002. Spring periods were also very dry from 2000 to 2003, averaging only 44% of normal in 2002 and 43% in 2003 (Utah climate summaries 2004). These dry conditions are the primary factor for the downward browse and herbaceous trends seen on the unit.

Average Trends - WMU 23 Monroe

	1991	1998	2003
Soil	2.0	2.5	3.1
Browse	2.0	2.5	2.4
Herb	3.7	1.8	2.3
	6 sites	6 sites	10 si



Below are precipitation graphs for the Monroe unit. Data represents percent of normal precipitation averaged for 3 weather stations which include Richfield, Marysville, and Koosharem (Utah climate summaries 2004).



Trend Summary

	Category	1985	1991	1998	2003
23-1 Bear Ridge	soil	est	2	2	4
	browse	est	1	3	2
	herbaceous understory	est	4	3	3
23-2 Saul Meadow	soil	est	2	4	2
	browse	est	2	2	4
	herbaceous understory	est	4	3	3
23-3 Thompson Basin	soil	est	2	3	2
	browse	est	2	2	2
	herbaceous understory	est	5	1	3
23-4 Poverty Flat	soil	est	2	1	4
	browse	est	2	1	4
	herbaceous understory	est	1	1	2
23-5 Smith Canyon	soil	est	2	2	3
	browse	est	4	3	1
	herbaceous understory	est	4	2	1
23-6 Koosharem Canyon	soil	est	2	3	3
	browse	est	1	4	3
	herbaceous understory	est	4	1	2
	Category			1997	2003
23R-1 Greenwich Disking	soil			est	1
	browse			est	1
	herbaceous understory			est	1
23R-2 Greenwich Native	soil			est	3
	browse			est	1
	herbaceous understory			est	1

1 = down, 2 = slightly down, 3 = stable, 4 = slightly up, 5 = up, est = established, susp = suspended, NR = not read

	Category	1999	2003
23R-3 Plateau Harrow	soil	est	5
	browse	est	3
	herbaceous understory	est	4
23R-4 Plateau Native	soil	est	4
	browse	est	3
	herbaceous understory	est	3

1 = down, 2 = slightly down, 3 = stable, 4 = slightly up, 5 = up, est = established, susp = suspended, NR = not read